

REMARKS

Claims 22-54 are pending in the present application. In the Office Action mailed December 1, 2006, the Examiner provisionally rejected claims 22-54 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-17, 23, and 24 of copending Application No. 10/605,546 (US Pub. 2005/0016979). The Examiner also provisionally rejected claims 22-54 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 24-43 of copending Application No. 10/604,459 (US Pub. 2005/0016978). Claims 22-39, 43, 47, and 51-54 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Claims 22-54 were rejected under 35 U.S.C. §103(a) as being unpatentable over either Prunier (FR 2 536 320) or Behnke et al. (USP 2,510,207) in view of Bailey (USP 5,266,778).

Double Patenting Rejections

The Examiner provisionally rejected claims 22-54 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-17, 23, and 24 of copending Application No. 10/605,546 and also over claims 24-43 of copending Application No. 10/604,549. Applicant respectfully disagrees with the Examiner's rejection.

Applicant believes that the Examiner's rejection of claims 22-54 on the ground of nonstatutory obviousness-type double patenting is improper. MPEP §804 states, in part, that "any obviousness-type double patenting rejection should make clear... the reasons why a person of ordinary skill in the art would conclude that the invention defined in the claim at issue would have been an obvious variation of the invention defined in a claim in the patent." Here, the Examiner has merely stated that it would have been obvious that "the additional features present for the welding-type system of [the] copending [applications] would selectively be present on the welder of the present application, as open-ended 'comprising' language is present in the current application." *Office Action, June 26, 2006, p. 4-5*. As previously stated in Applicant's response dated September 26, 2006, Applicant is unaware of any precedent allowing for such an arbitrary application of the "open-ended 'comprising' language" for a double-patenting rejection. Applicant respectfully requests authority for such a rejection.

Furthermore, the claims in the current invention clearly call for elements not disclosed in the prior co-pending applications. For example, claims 22 and 30 both call for, in part, a cooling system having a sensing device positioned in relative proximity to a coolant supply outlet and configured to provide a component connection status output indicative of connection status of a welding-type component to the coolant supply outlet. No such feature is set forth in the claims of

either of the co-pending applications cited by the Examiner. It is improper for the Examiner to assert that this element would have been obvious to one skilled in the art based on the claims of the co-pending applications merely because of open ended “comprising” language therein. Absent authoritative citation by the Examiner, Applicant believes this position is unsupportable. Thus, Applicant requests that the nonstatutory obviousness-type double patenting rejection be withdrawn, as it is clearly improper.

§112 Rejection

The Examiner rejected claims 22-39, 43, 47, and 51-54 under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In response to Applicant’s prior arguments regarding the appropriateness of the rejection, the Examiner stated that “the applicants have not defined the indefinite ‘welding-type component’, ‘weld-type area’, ‘welding-type output’, welding-type process’, etc.” *Office Action, December 1, 2006, p. 10.*

MPEP §2173.02 states, in part, that “[t]he test for definiteness under 35 U.S.C. §112, second paragraph, is whether ‘those skilled in the art would understand what is claimed when the claim is read in light of the specification.’” See also *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576, 1 USPQ2d 1081, 1088 (Fed. Cir. 1986). Applying this test to the current claims, it is clear that the term “welding-type” is in fact definite. That is, one skilled in the art would understand what is claimed in claims 22-39, 43, 47, and 51-54 when read in light of the specification. ¶ 35 of the application describes the term “welding-type” in a manner that allows one skilled in the art to understand what is being called for in those claims containing the term “welding-type”. As set forth in ¶ 35 of the specification:

As one skilled in the art will fully appreciate, the heretofore description of welding devices not only includes welders, but also includes any system that requires high power outputs, such as heating and cutting systems. Therefore, the present invention is equivalently applicable with any device requiring high power output, including welders, plasma cutters, induction heaters, and the like. Reference to welding power, welding-type power, or welders generally, includes welding, cutting, or heating power. Description of a welding apparatus illustrates just one embodiment in which the present invention may be implemented. The present invention is equivalently applicable with many high power systems, such as cutting and induction heating systems, or any similar systems.

Application, ¶ 35. In light of this description, Applicant believes that claims 22-39, 43, 47, and 51-54, which include the term “welding-type”, are supported by the specification in a manner that

allows one skilled in the art to understand what is being called for therein. As such, Applicant respectfully believes that claims 22-39, 43, 47 and 51-54 are indeed definite, and as such, meet the formal requirements of 35 U.S.C. §112.

§103(a) Rejection

The Examiner also rejected claims 22-54 under 35 U.S.C. §103(a) as being unpatentable over “either” Prunier (FR 2 536 320) or Behnke et al. (USP 2,510,207) in view of Bailey (USP 5,266,778). Initially, Applicant would like to point out that the substance of the Examiner’s rejection for claims 22-54 appears to be identical to the rejection previously set forth in the Office Action dated June 26, 2006 regarding claims 22-39. That is, it appears that the Examiner has made no attempt to individually examine the elements of claims 40-54 and apply the cited references to those specific claims, but rather is rejecting the current invention “as a whole” over the cited references.

Applicant believes that a *prima facie* case of obviousness has not been established and one cannot be made based on the art of record. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. MPEP §2143. Second, there must be a reasonable expectation of success and both the reasonable expectation of success and the teaching or suggestion to make the claimed combination must be found in the prior art, not in applicant’s disclosure. Id., citing In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP §2143. As set forth in the response of September 26, 2006, Applicant believes that the Examiner has not established the three basic criteria required under MPEP §2143. For the reasons set forth in that response, Applicant maintains that there is no motivation to combine the references, and that even assuming that there is some motivation to combine, that the combination of the references would not have a reasonable expectation of success for achieving the current invention. However, Applicant would again like to address the Examiner’s characterization of the teachings of the cited references, and the assertion that the references teach or suggest all of the elements of the current claims.

In the Office Action of December 1, 2006, and in response to arguments previously set forth by Applicant, the Examiner stated that “[o]ther than the alleged lacking of the ‘sensing device’..., it is noted that the applicants have not provided further arguments against the teachings of Prunier and Behnke et al. (both of which set forth welders having coolant

circulation), but their arguments have been provided chiefly to attack the alleged deficiencies of the Bailey reference.” *Office Action*, supra at 11. In response, Applicant would point out that it is only logical to focus on what a cited reference fails to disclose rather than on the elements it does disclose. That is, while Applicant does not disagree that Prunier and Behnke et al. generally disclose welders having coolant circulation, those references (along with Bailey) must teach all of the elements of the claims in order for a 103(a) rejection to be proper. Thus, the fact that Applicant argues that Prunier and Behnke et al. clearly do not teach, disclose, or suggest a sensing device as called for in the current claims, which the Examiner has asserted that they do, is enough to show that the obviousness rejection under 103(a) is improper.

Regarding the Examiner’s general statement that one cannot show nonobviousness by attacking references individually, and the extension of this rationale to Applicant’s arguments regarding Bailey, Applicant would point out the Examiner specifically relies on Bailey for disclosing a dynamic temperature control (i.e., “controller”) and admits that Prunier and Behnke et al. do not teach, disclose, or suggest a controller as called for in the current claims. As Prunier and Behnke et al. admittedly do not teach or disclose such a controller, is only logical that Applicant would focus arguments in this respect on the failure of Bailey to teach, disclose, or suggest a controller called for in the current claims, as that is the assertion the Examiner has made. As will be set forth in greater detail below, the teachings of Bailey, combined with the teachings of Prunier or Behnke et al., do not set forth each and every element called for in the current claims as required for a *prima facie* obviousness rejection under 103(a). The Examiner’s assertions regarding Applicant’s exact form of setting forth arguments in this respect do nothing to correct the deficiencies of the cited references and their failure to teach, disclose, or suggest all the elements of the current claims.

Claims 22 and 30

Claim 22 and claim 30 call for, in part, a cooling system having a sensing device positioned in relative proximity to a coolant supply outlet and configured to provide a component connection status output indicative of connection status of a welding-type component to the coolant supply outlet. As detailed in the current Application, cooling system 46 includes a sensory or pick-up device 63 that provides feedback to controller 50 regarding a connection status of torch 32 to receive coolant. *See Application, p. 8, lns. 23-24; see also Fig. 2.* That is, the sensing device 63 sends a signal to controller 50 that allows it to determine that a coolant hose 44 is connected to the coolant outlet of torch 32. *See id., lns. 30-31; see also Figs. 1 & 2.*

The Examiner asserted that this sensing device is taught and disclosed in both Prunier and Behnke et al.; however, the Examiner has mischaracterized what is set forth in the cited

references. Neither Prunier nor Behnke et al. teach or disclose a sensing device that is configured to provide a component connection status output indicative of connection status of a welding-type component to the coolant supply outlet. That is, Prunier and Behnke et al. both fail to teach or disclose a mechanism that is configured to determine if the hose or conduit connecting the coolant supply to the welding torch is actually connected to the torch. Neither reference provides any suggestion of such a feature being included therein. Furthermore, Bailey also fails to teach or disclose a sensing device configured to provide a component connection status output indicative of connection status of a welding-type component to a coolant supply, as Bailey does not even include a welding-type component or coolant supply. Thus, the combination of Prunier or Behnke et al. with the system of Bailey fails to teach, disclose, or suggest a sensing device as called for in claims 22 and 30, and therefore there is no support for a finding of obviousness thereover. As such, claims 22 and 30, and the claims dependent therefrom, are patentably distinct over the cited references.

Claims 22 and 30 also call for, in part, the cooling system to include a controller to control coolant circulation. Claim 22 calls for a cooling system having a controller adapted to maintain coolant circulation if a temperature of the coolant exceeds a set point temperature. Similarly, claim 30 calls for a cooling system having a controller adapted to electronically communicate with a sensing device and to automatically affect circulation of coolant from a coolant source through a coolant supply outlet and a coolant conduit to a welding-type component when the welding-type component is activated.

Both Prunier and Behnke et al. fail to teach or disclose such a controller. Prunier fails to teach or disclose any mechanism or control for controlling coolant flow in the system. Behnke et al. discloses a system in which a control box B contains a series of relays 10, 12, 17, a timer 14, and switches 18, 20 that control the flow of argon gas and coolant in the welding torch. *See Behnke et al., Col. 1, lns. 52-55 and Col. 2, lns. 1-17.* The relays respond to increases/decreases in arc voltage to determine when the timer and switches should be activated in order to control flow of the gas and coolant. *Id.* Behnke et al., however, does not disclose a controller adapted to maintain coolant circulation based on whether a temperature of the coolant exceeds a set point temperature.

As Prunier and Behnke et al. fail to teach or disclose a controller as called for in claims 22 and 30, the Examiner relies on Bailey to teach such a controller. Regarding claim 22, Bailey fails to teach or disclose a controller adapted to maintain coolant circulation if a temperature of the coolant exceeds a set point temperature, as asserted by the Examiner. The controller 50 called for in claim 22 is connected to a temperature sensor 54 designed to provide feedback as to the

temperature of the torch and/or the coolant within the torch as well as a pressure sensor or flow meter 56 to provide feedback regarding coolant pressure and flow in the system. The temperature sensor 54 provides temperature feedback to the controller such that circulation is maintained both during a welding process and after a welding process is complete if the temperature exceeds a specified set point. *Application*, p. 7, *Ins.* 30-31 and p. 8, *Ins.* 1-5. This is not what is taught or disclosed in Bailey. Rather, Bailey discloses a dynamic temperature control 10, which includes fluid temperature sensor 30 and/or remote temperature sensor 32. The dynamic temperature control is a means of using a multiple discrete level power supply to optimally control the thermal load with a thermoelectric heat exchanger. *Bailey*, Col. 4, *Ins.* 67-68 and col. 5, *Ins.* 1-4. The dynamic temperature control 10 is capable of delivering various discrete voltages. Thus, the “controller” identified by the Examiner in Bailey does not control coolant circulation, it only controls the amount of voltage used to heat the circulating fluid. This is not what is called for in claim 22. Claim 22 calls for a controller configured to maintain the actual circulation of the coolant, the controller does not control voltage signals used to vary the coolant temperature. The Examiner states as much when he recognizes Bailey as disclosing a “dynamic temperature control... to control the operating temperature of the fluid....” *Office Action*, *supra* at 7. The dynamic control system disclosed in Bailey fails to teach, disclose, or suggest the controller called for in claim 22 and cannot be said to render obvious that which is called for therein. Thus, claim 22 and the claims dependent therefrom are patentably distinct over the cited references.

Similarly, Bailey cannot be said to teach or disclose the controller called for in claim 30, which is configured to electronically communicate with the sensing device and to automatically affect circulation of coolant from the coolant source through the coolant supply outlet and the coolant conduit to the welding-type component when the welding-type component is activated. As stated above, the dynamic control system 10 of Bailey does not affect or control circulation of the coolant. Rather, it merely controls a voltage amount used to control temperature of the circulated coolant. Thus, claim 30 and the claims dependent therefrom are also patentably distinct over the combination of references set forth by the Examiner.

Claim 40

While Applicant disagrees with the rejection of claim 40 under 103(a) over the cited references, Applicant has nevertheless elected to amend claim 40 to incorporate the subject matter of claim 41. Claim 41 has been canceled. As amended, claim 40 is clearly patentable as it calls for, in part, a welding system having a controller configured to detect a connection status of a welding torch to a cooler and regulate the cooler such that coolant is prevented from circulating if the welding torch is disconnected from the cooler. As argued above with respect to claims 22

and 30, Prunier and Behnke et al. both fail to teach or disclose a controller configured to detect connection status of the welding torch to the cooler. Neither reference provides any suggestion of such a feature being included therein. Furthermore, the controller in Bailey also is not configured to detect connection status of the welding torch to the cooler. In fact, no welding torch is even present in Bailey. As such, claim 40 and the claims dependent therefrom are patentably distinct over the cited references.

Claim 42 has also been amended to reflect the chain of dependency.

Claim 44

Claim 44 calls for, in part, a welding system having a pressure sensor to provide feedback as to pressure of coolant circulating through a welding torch and a controller further configured to receive a coolant pressure signal from the pressure sensor and, if coolant pressure is outside an acceptable range, transmit a shut-down signal to the power source. None of Prunier, Behnke et al., or Bailey teaches or discloses, singly or in any combination, the use of a pressure sensor to measure coolant pressure or a controller configured to transmit a power source shut-down signal based on the coolant pressure reading. That is, Prunier and Behnke et al. both fail to teach or disclose a pressure sensor to measure the pressure of coolant circulating through the welding torch, nor do they teach or disclose a controller to shut-down the power source based on such a pressure reading. Bailey also fails to teach or disclose such a pressure sensor or controller. Rather, as stated above, Bailey discloses a dynamic temperature control 10, which includes fluid temperature sensor 30 and/or remote temperature sensor 32. The temperature sensor 30/32 sends a signal to a temperature state controller 12, which in turn controls a bipolar power supply 14 to supply a desired voltage. *Bailey, Col. 4, lns. 67-68 and col. 5, lns. 1-4.* Bailey, however, does not teach or suggest a pressure sensor to provide feedback as to the pressure of the coolant or a controller configured to transmit a shut-down signal to the power source based on a coolant pressure signal from the pressure sensor, as is called for in claim 44. As such, claim 44 and the claims dependent therefrom are patentably distinct over the combination of the cited references.

Claim 51

Claim 51 calls for, in part, a controller configured to detect connection of a welding-type component to a coolant source, and upon connection, permit circulation of coolant through the welding-type component only upon activation of the welding-type component. As set forth above, the cooling system 46 of the current invention includes a sensory or pick-up device 63 that provides feedback to controller 50 regarding a connection status of torch 32 to receive coolant. *See Application, p. 8, lns. 23-24; see also Fig. 2.* That is, the sensing device 63 sends a signal to controller 50 that allows it to determine that a coolant hose 44 is connected to the coolant outlet

of torch 32. *See id., Ins. 30-31; see also Figs. 1 & 2.* The Examiner asserted that a controller configured to determine a connection status of a welding torch to receive coolant is taught, disclosed, or suggested by the combination of either Prunier or Behnke et al. with Bailey; however, the Examiner has mischaracterized what is set forth in the cited references. That is, as set forth in detail above, none of the cited references teach, disclose, or suggest a controller that is configured to detect connection status of a welding-type component and effect circulation of coolant therethrough based on that connection status, as is called for in claim 51. There is no suggestion of such a feature in any of the cited references, and the Examiner has provided no support for such an assertion. As such, claim 51 and the claims dependent therefrom are patentably distinct over the cited references.

Claim 54

Claim 54 calls for, in part, a welding-type power source connectable to a welding-type component designed to deliver a welding-type power to a welding-type area wherein the power source includes a means for detecting connection of an outputting welding-type power means to a cooling means and a means for automatically circulating coolant through at least the welding-type power means upon activation of the outputting welding-type power means only if the detecting means detects connection of the outputting welding-type power means to the cooling means.

Again, none of the cited references teach, disclose, or suggest a means for detecting connection status of a means for outputting welding-type power to a cooling means or of a means for automatically circulating coolant if the detecting means detects connection of the outputting welding-type power means to the cooling means, as is called for in claim 54. There is no suggestion of such a feature in any of Prunier, Behnke et al., or Bailey, and the Examiner has provided no basis for such an assertion to that effect. That is, Prunier and Behnke et al. both fail to teach or disclose a means for detecting connection status of a means for outputting welding-type power to a cooling means, or of a means for automatically circulating coolant if the detecting means detects connection of the outputting welding-type power means to the cooling means. Neither reference provides any suggestion of such a means being included therein. Furthermore, Bailey also clearly fails to teach or disclose a means for detecting connection status of a means for outputting welding-type power to a cooling means, or of a means for automatically circulating coolant if the detecting means detects connection of the outputting welding-type power means to the cooling means. In fact, Bailey does not even include a welding-type power means or a means for outputting welding-type power. Thus, the combination of Prunier or Behnke et al. with the system of Bailey fails to teach, disclose, or suggest that which is called for in claim 54. As such, claim 54 is patentably distinct over the cited references.

Therefore, in light of at least the foregoing, Applicant respectfully believes that the present application is in condition for allowance. As a result, Applicant respectfully requests timely issuance of a Notice of Allowance for claims 22-40 and 42-54.

Applicant appreciates the Examiner's consideration of these Amendments and Remarks and cordially invites the Examiner to call the undersigned, should the Examiner consider any matters unresolved.

Respectfully submitted,

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¹The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 50-2623. Should no proper payment be enclosed herewith, as by credit card authorization being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 50-2623. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extensions under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 50-2623. Please consider this a general authorization to charge any fee that is due in this case, if not otherwise timely paid, to Deposit Account No. 50-2623.